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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/470,685	12/23/1999	DAVID A. HUGHES	081862.P101	6470

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LESTER J VINCENT
BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP
12400 WILSHIRE BLVD 7TH FLOOR
LOS ANGELES, CA 90025

EXAMINER

NGUYEN, HANH N

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 07/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/470,685

Applicant(s)

HUGHES, DAVID A.

Examiner

Hanh Nguyen

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment filed on 04/23/04.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-81 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19 and 45 is/are allowed.
- 6) ☒ Claim(s) 1-5, 16, 17, 20, 21, 32-43, 46-50, 58-60 and 68-81 is/are rejected.
- 7) ☒ Claim(s) 6-15, 22-31, 51-57 and 61-67 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 32, 33, 46, 47, 48, 49, 58, 59, 68, 69, 78 are rejected under 35 U.S.C. 102(b) as being anticipated by **Vallee et al.** (US Pat. No. 5,608,733).

In claims 1, 32, 46, 47, 48, 58, 68 and 78, **Vallee et al.** discloses, in Fig.8, an ATM network comprising a transmitting node 20 (a transmitting switch) transmitting different ATM cells (distinct data) over links 24 respectively (along each link) to a receiving node 26 (transmitting distinct data along each link of plurality of links to the receiving switch). See col.5, line 60 to col.6, line 5. When one of links 24 is failed, ATM cell transmitted on the failed link is resent over the remaining links to reestablish connection between two switches (distinct data transmitted along one link is switched to another link when the failure is detected on the one link). See col.7, lines 12-25.

In claims 2, 33, 49, 59 and 69, the limitations of these claims have been addressed in claims 1, 32 and 68 above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2662

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 5, 20, 21 and 35 are rejected under 35 USC 103(a) as being unpatentable over Vallee et al. in view of the Official Notice.

In claims 4 and 20, **Vallee et al.** does not disclose the transmitter switch comprising a transmitter line card. Official Notice is taken that comprising the transmitter line card in the transmitter switch is well known and expected in the art. It would have been obvious to include the line card into the switch for switching data via line card to destination.

In claims 5, 21 and 35, the limitations of these claims have been addressed in claim 1.

Claims 36-43, 71-77 and 79-81 are rejected under 35 USC 103(a) as being unpatentable over **Vallee et al.** (US Pat. No. 5,608,733) in view **Oba et al.** (US Pat. No. 6,262,986 B1).

In claim 81, **Vaallee et al.** does not disclose transmitter classifier module classifies a link on which the cells is transmitted; a plurality of queuing buffers storing received packets; transmitter multiplexing module coupled to each buffer queue and to each link; and directing cells stored in each buffer in a predetermined order.

Oba et al. discloses, in Fig.1, a scheduling unit 16 (transmitter classifier module) that assigns (classifies) a virtual connection on which the packet is transmitted (transmitter classifier module classifies a link on which the cells is transmitted). See col.17, lines 35-45. Fig.1 shows packet queues 12, 13, 14 (a plurality of queuing buffers) that store received packets (storing received packets). See col.4, lines 65 to col.5, line 5. A packet output unit 17 (transmitter multiplexing module) is coupled to each packet queue and link 20 (coupled to each buffer queue

and to each link). A scheduling management unit 16 schedules information which specifies an order to read out packets 18 stored in packet queues 12-14 (directing cells stored in each buffer in a predetermined order). See col.5, lines 1-15 & col.5, lines 35-40.

Therefore, it would have been obvious to add the packet scheduling of **Oba et al.** into the switch of **Vallee et al.** so that cells is assigned into an appropriate queue for transmitting into links. The advantage is to store cells in packet buffer and assign cells into a backup link when a primary is failed.

In claims 36, 71 and 79, **Vallee et al.** does not disclose the transmitter switch receives a virtual connection setup request and assigns at least one virtual connection corresponding to the VC request to each buffer. **Oba et al.** discloses virtual connection with requested bandwidth is received at packet input unit 15 (transmitter switch receives a virtual connection setup request). The packet input unit 15 then enters packets that are corresponding to different virtual connections into an appropriate one of packet queues 12-14 according to a header information of the packet (assigns at least one virtual connection corresponding to the VC request to each buffer). See col.5, lines 18-35. Therefore, it would have been obvious to modify **Vallee et al.** by adding packet queues of **Oba et al.** into the transmitter switch of **Vallee et al.** so that packets with different VC can be allocated.

In claims 37 and 72, the limitations of these claims have been addressed in claim 1.

In claims 38, 73 and 80, **Vallee et al.** does not disclose assigning VC to each buffer in such a way so as to ensure that each link has a balance load. **Oba et al.** discloses each VC corresponding to a packet queue is assigned in accordance with the queue length) (assigning VC to each buffer in such a way so as to ensure that each link has a balance load).

See col.5, lines 40-47.

In claims 40-41 and 75-77, the limitations of these claims have been addressed in claim 32.

Claims 18 and 44 are rejected under 35 USC 103(a) as being unpatentable over **Vallee et al.** (US Pat. No. 5,608,733) in view of **Graham et al.** (US Pat. No. 6,097,722).

In claims 18 and 44, **Vallee et al.** does not disclose each link includes a guaranteed bandwidth. **Graham et al.** discloses, in Fig.8, a Centralized Call Control (CAC) allocates virtual channel with a guaranteed bandwidth as specified in a contract to user (each link includes a guaranteed bandwidth). See col.7, lines 50-62. Therefore, it would have been obvious to modify the **Vallee et al.** by using the CAC of **Graham et al.** to assign guaranteed bandwidth to links connecting users.

Claims 3, 34, 50, 60 and 70 are rejected under 35 USC 103(a) as being unpatentable over **Vallee et al.** (US Pat. No. 5,608,733) in view of **Hassell et al.** (US Pat. No. 6,356,622 B1).

In claims 3, 34, 50, 60 and 70, **Vallee et al.** does not disclose the network is a Frame Relay network. **Hassell et al.** discloses, in Fig.1, a frame relay network 16 used to connect a primary link 18 between node 12 and node 14 (the network is a Frame Relay network). See col.4, lines 25-40. Therefore, it would have been obvious to replace the ATM network of **Vallee et al.** by the Frame Relay network of **Hassell et al.** so that variable length cells can be transmitted from the transmitter switch to the receiver switch.

Claims 16 and 17 are rejected under 35 USC 103(a) as being unpatentable over **Vallee et al.** (US Pat. No. 5,608,733) in view of the **Admitted Prior Art.**

In claims 16 and 17, **Vallee et al.** does not disclose the cells comprising header having VCI/VPI. The admitted prior art discloses on page 1, lines 20-25 that each cell comprising a header having VCI/VPI for identifying an ATM connection (a link) of that particular cell. Therefore, it would have been obvious for one skills in the art to conclude that ATM cells comprises header with VCI/VPI attached in order to identify the connection for that particular cell.

Allowable Subject Matter

Claims 19, 45 are allowed over prior art.

The following is a statement of reasons for the indication of allowable subject matter:

In claims 19 and 45, the prior art does not disclose the total bandwidth of each link is greater than a sum of guaranteed bandwidth provided by any two links of the plurality of links.

Claims 6-15, 22-31, 51-57 and 61-67 are objected.

Response to Arguments

Applicant's arguments with respect to claims 1-5, 16, 17, 20, 21, 32-44, 46-50, 58-60 and 68-81 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Rochberger et al. (US Pat. No. 6,272,107 B1) discloses Method of path Restoration in an ATM network Utilizing Point to Point Switched Virtual Circuit.

Wikinson et al. (US Pat. No. 5,452,293) discloses Apparatus and Method of Transmitting Call Information Prior to Establishing a Connection Path.

Calvignac et al. (US Pat. No. 5,629,928) discloses Dynamic Fair Queuing to Support Best Effort Traffic in an ATM Network.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Nguyen whose telephone number is 703 306-5445. The examiner can normally be reached on Monday-Friday from 8AM to 5PM. The examiner can also be reached on alternate

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou, can be reached on 703 305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hanh Nguyen

June 30, 2004

A handwritten signature in black ink, appearing to read 'HNguyen', is written over the typed name and date.